

Listing Of Claims

1. (currently amended) A hydraulic circuit for supplying fluid at a plurality of different pressures, the circuit comprising

(a) a reservoir containing fluid at an upstream pressure level;

(b) a pump for receiving a fluid from the reservoir and for raising a fluid pressure of the fluid from the upstream pressure level to a downstream pressure level;

(c) a pressure conduit for receiving the fluid from the pump;

(d) an adjustable relief valve for receiving fluid at the downstream pressure level from the pump, wherein the adjustable relief valve is

connected to a relief conduit and to the pressure conduit,

operable to open to connect the pressure conduit with the relief conduit when the downstream pressure level exceeds an actuation pressure level,

operable to close to isolate the pressure conduit from the relief conduit when the actuation pressure level exceeds or is equal to the downstream pressure level, and

remotely adjustable to change the actuation pressure;
and,

(e) remote control ~~means for~~ device capable of remotely adjusting the adjustable relief valve.

2. (currently amended) The hydraulic circuit as defined in claim 1 wherein the adjustable ~~release~~ relief valve comprises

a valve conduit for connecting the relief conduit to the pressure conduit to provide fluid communication therebetween;

a conduit blocking element for, when in a closed position, blocking the valve conduit to impede fluid communication between the pressure conduit and the relief conduit, and for, when in an open position, permitting fluid communication between the pressure conduit and the relief conduit; and

a biasing ~~means for~~ device capable of biasing the conduit blocking element to the closed position when the ~~the~~ downstream pressure level is less than the actuation pressure, wherein the biasing ~~means~~ device is remotely adjustable by the remote control ~~means~~ device to change the actuation pressure.

3. (currently amended) The hydraulic circuit as defined in claim 2 wherein

the biasing ~~means~~ device comprises a control surface;

the remote control ~~means~~ device comprises

a pneumatic line for supplying pressurized air at a selected air pressure to the control surface,

an air pressure control ~~means~~ for device capable of controlling the selected air pressure of the air supplied to the control surface; and,

the remote control ~~means~~ device is operable to controllably supply air pressure to the control surface to increase a biasing force of the biasing ~~means~~ device to raise the actuation pressure of the adjustable relief valve.

4. (currently amended) The hydraulic circuit as defined in claim 3 wherein the hydraulic flow circuit is mounted on a vehicle, the remote control ~~means~~ device being controllable from a cab of the vehicle.

5. (currently amended) The hydraulic circuit as defined in claim 4 further comprising a power takeoff ~~means~~ for device capable of drawing power from a vehicle transmission to power the pump.

6. (currently amended) The hydraulic circuit as defined in claim 5 wherein the remote control ~~means~~ device comprises a safety valve for shutting off supply of air to the pneumatic line, the safety valve having an open position for permitting air flow into the pneumatic line and a closed position for blocking air flow into the pneumatic line, wherein the safety valve moves from the open position to the closed position when the power takeoff ~~means~~ device is turned off, and is manually switchable

from the closed position to the open position when the power takeoff ~~means~~ device is turned back on.

7. (currently amended) In a pump for providing a pressurized liquid to a hydraulic circuit, an adjustable relief valve, wherein the hydraulic circuit includes a pressure conduit for receiving pressurized liquid from the pump and a relief conduit for receiving pressurized liquid from the pump when the relief valve is open, the adjustable relief valve comprising

a valve conduit for connecting the relief conduit to the pressure conduit to provide fluid communication therebetween;

a conduit blocking element for, when the adjustable relief valve is in a closed position, blocking the valve conduit to impede fluid communication between the pressure conduit and the relief conduit, and for, when the adjustable relief valve is in an open position, permitting fluid communication between the pressure conduit and the relief conduit;

a biasing ~~means for~~ device capable of biasing the conduit blocking element to the closed position when the downstream pressure level is less than the actuation pressure, wherein the biasing ~~means~~ device is remotely adjustable to change the actuation pressure; and,

remote control ~~means for~~ device capable of remotely adjusting the biasing ~~means~~ device.

8. (currently amended) The relief valve as defined in claim 7 wherein

the biasing ~~means~~ device comprises a control surface;

the remote control ~~means~~ device comprises

a pneumatic line for supplying pressurized air at a selected air pressure to the control surface,

an air pressure control ~~means~~ device for controlling the selected air pressure of the air supplied to the control surface; and,

the remote control ~~means~~ device is operable to controllably supply air pressure to the control surface to increase a biasing force of the biasing ~~means~~ device to raise the actuation pressure of the adjustable relief valve.

9. (currently amended) The relief valve as defined in claim 8 wherein the relief valve is mounted on a vehicle, the remote control ~~means~~ device being controllable from a cab of the vehicle.

10. (currently amended) The relief valve as defined in claim 9 wherein the remote control ~~means~~ device comprises a safety valve for shutting off supply of air to the pneumatic line, the safety valve having an open position for permitting air flow into the pneumatic line and a closed position for blocking air flow into the pneumatic line, wherein the safety valve moves from the open position to the closed position when the pump is turned off, and is manually switchable from the closed position to the open position after the pump is turned back on.

11. (currently amended) A method of modifying a hydraulic circuit to operate at multiple pressures, the hydraulic circuit having

a reservoir containing fluid at an upstream pressure level;

a pump for receiving a fluid from the reservoir and for raising a fluid pressure of the fluid from the upstream pressure level to a downstream pressure level; and

a pressure conduit for receiving the fluid from the pump; the method comprising the steps of incorporating into the hydraulic circuit

(a) an adjustable relief valve for receiving fluid at the downstream pressure level from the pump, wherein the adjustable relief valve is

(i) connected to a relief conduit and to the pressure conduit,

(ii) operable to open to connect the pressure conduit with the relief conduit when the downstream pressure level exceeds an actuation pressure level,

(iii) operable to close to isolate the pressure conduit from the relief conduit when the actuation pressure level exceeds or is equal to the downstream pressure level, and

(iv) remotely adjustable to change the actuation pressure; and,

(b) remote control ~~means for~~ device capable of remotely adjusting the adjustable relief valve.

12. (currently amended) The method as defined in claim 11 wherein the adjustable ~~release~~ relief valve comprises

a valve conduit for connecting the relief conduit to the pressure conduit to provide fluid communication therebetween;

a conduit blocking element for, when in a closed position, blocking the valve conduit to impede fluid communication between the pressure conduit and the relief conduit, and for, when in an open position, permitting fluid communication between the pressure conduit and the relief conduit; and

a biasing ~~means for~~ device capable of biasing the conduit blocking element to the closed position when the downstream pressure level is less than the actuation pressure, wherein the biasing ~~means~~ device is remotely adjustable by the remote control ~~means~~ device to change the actuation pressure.

13. (currently amended) The method as defined in claim 12 wherein

the biasing ~~means~~ device comprises a control surface;
the remote control ~~means~~ device comprises

a pneumatic line for supplying pressurized air at a selected air pressure to the control surface,

an air pressure control ~~means~~ for device capable of controlling the selected air pressure of the air supplied to the control surface; and,

the remote control ~~means~~ device is operable to controllably supply air pressure to the control surface to increase a biasing force of the biasing ~~means~~ device to raise the actuation pressure of the adjustable relief valve.

14. (currently amended) The method as defined in claim 13 wherein the hydraulic flow circuit is mounted on a vehicle, the remote control ~~means~~ device being controllable from a cab of the vehicle.

15. (currently amended) The method as defined in claim 14 further comprising a power takeoff ~~means~~ for device capable of drawing power from a vehicle transmission to power the pump.

16. (currently amended) The method as defined in claim 15 wherein the remote control ~~means~~ device comprises a safety valve for shutting off supply of air to the pneumatic line when the power takeoff ~~means~~ device is off, and for shutting off supply of air to the pneumatic line when the power takeoff ~~means~~ device is turned back on after being off, the safety valve having an open position for permitting air flow into the pneumatic line and a off position for blocking air flow into the pneumatic line, wherein the safety valve moves from the open position to the closed position when the power takeoff ~~means~~ device is turned off, and is manually switchable from the off position to the on position after the power takeoff ~~means~~ device is turned back on.